

constituting the two-group objective lens for minimizing wavefront aberration. Japanese Patent Application No. Hei 8-340903 made by the present first inventor and the present applicant discloses an apparatus and a method for recording/reproducing optical information on or from an optical disk. In this document, an optical disk drive using an optical head having a two-group objective lens is configured such that lenses constituting the two-group objective lens are integrally moved for focus servo operation and then the tail spherical lens of the two-group objective lens is independently moved in the direction of the optical axis to minimize wavefront aberration.

#### REMARKS

Favorable reconsideration of this application is respectfully requested.

Claims 1-28 are pending in this application.

The outstanding Office Action presents an objection to the title as not being descriptive enough, an objection to page 2, line 16, of the specification, a rejection of Claims 1, 5, 15, 19, 22, and 26 as being anticipated by Maeda et al (U.S. Patent No. 6,005,834, Maeda), and a rejection of Claims 2, 3, 6, 7, 16, 17, 20, 21, 23, 24, 27, and 28 as being unpatentable over Maeda in view of Funada (U.S. Patent No. 4,730,294) under 35 U.S.C. § 103(a).

Initially, Applicants gratefully acknowledge the indication in the outstanding Office Action that Claims 8-14 are allowable over the prior art and that Claims 4, 18, and 25 are only objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

With regard to the objection made to the title, it is believed that this objection is now moot and should be withdrawn in view of the fact that the present amendment adopts the Examiner's suggestion as to an appropriate title.

Similarly, it is believed that the objection to the specification should now be withdrawn as moot in view of the present amendment adopting the correction suggested by the Examiner.

Before turning to the outstanding prior art rejections, it is believed that a brief review of the present inventive subject matter under rejection would be helpful. In this regard, the rejected subject matter relates to an optical information recording/reproducing apparatus that includes an optical pickup that makes a light beam emitted from a light source incident on a recorded medium via a two-group objective lens. This two-group objective lens includes a first lens disposed near the recording medium and a second lens that is disposed at a position that faces the recording medium with the first lens being between the recording medium and the second lens. A movement means that cyclically moves at least one of these lenses in the direction of the optical axis is provided as part of the optical pickup. A control means is provided for performing, upon a focusing operation, positional adjustment of the first lens and the second lens after startup of focus control. The position adjustment is made on the basis of reproducing signals obtained from the recording medium at one or more points of the ongoing cyclic movement of the at least one of the two lenses by the moving means.

Turning to the anticipation rejection applied to Claims 1, 5, 15, 19, 22, and 26 it is noted that Maeda has been misinterpreted as teaching the "moving means" and corresponding "cyclically moving" function of independent rejected apparatus Claims 1 and 15 as well as the corresponding moving step of Claim 22 as to the disclosure presented at col. 5, lines 10-28 and in Figure 3 relative to elements 58 and 38. In this regard, col. 5, lines 10-19 of Maeda

begin by describing the interaction between the driving coil 56 and magnet 58 that supplies tracking error correction to a two-group lens which causes the two-group lens to move in a direction in which the two-group lens follows the center of a track in a direction that must lie in the tracking plane, not a direction along any optical lens axis. Accordingly, the indication of reliance upon the tracking control for tracking correction teachings is clearly improper.

Turning to the description of focus control appearing at col. 5, lines 20-28, while it is clear that magnet 38 here is described as interacting with coil 58 to provide focusing correction movements of lens holder 59 so that the two-group lens will be moved in the direction of the optical axis, totally lacking here is any indication that such movement will be in any way cyclical as Claims 1, 15, and 22 clearly recite it must be.

It is by now well established that all words in the claim must be considered when the claim is analyzed relative to the prior art. See In re Wilson, 165 USPQ 494, 496 (CCPA 1970). In this regard, the meaning of “cycle” is well understood to be “an interval of time during which a sequence of a recurring succession of events or phenomena is completed” see Meridian Webster’s Collegiate Dictionary, 10<sup>th</sup> Edition”, 1996, page 288. As this page of this standard dictionary further indicates, it is well understood that cyclically is an adverb describing something as being related to a cycle. Thus, it is unmistakable that for anything to be reasonably described as cyclical, some parameter thereof must be shown to be recurring in a repetitive sequence.

As a sequence of a recurring succession of movement values is the key requirement to reasonably describing any movement to be cyclic, a showing of how Maeda teaches such a recurring succession of movement values is needed to support this rejection. However, the outstanding Office Action makes no attempt to point out where in Maeda such a teaching is to be found contrary to PTO reviewing court requirements (see In re Rijckaert, 28 USPQ2d

1955, 1957 (Fed. Cir. 1993) (“When the PTO asserts that there is an explicit or implicit teaching or suggestion in the prior art, it must indicate where such a teaching or suggestion appears in the reference.”)). Thus, the outstanding Office Action is deficient in relying on the focus control movement of Maeda that is entirely dependent upon detected focus conditions relative to a particular medium with no guaranty of any recurring movement sequences.

Furthermore, while the United States Patent and Trademark Office is to give claim language its broadest reasonable interpretation, it is well established to be unreasonable to attempt to interpret words well understood by the artisan in a completely unrealistic manner. See In re Cortright, 49 USPQ2d 1464, 1468 (Fed. Cir. 1999). Thus, simply reading the cyclical optical axis direction movements required by Claims 1, 15, and 22 on any focusing movement made in the optical axis direction is a clearly improper and erroneous interpretation. Accordingly, while cyclical may be a broader recital than one reciting the preferred sine wave movement (note Figure 6A, for example), it still require some form of cyclical movement not met by the simple focus control movement of Maeda.

Besides the fact that Maeda neither teaches nor suggests any cyclical movement for the two-group objective lens in the direction of the optical axis as noted above, it also neither teaches nor suggests any use of reproducing signals obtained from the recording medium at one or more points of this cyclic movement as these claims also require. Once more the limitations positively set forth by Claims 1, 15, and 22 have been improperly ignored in making the outstanding rejection.

With further regard to the allegation in the outstanding Action of relevant teaching appearing in Maeda at col. 4, lines 15-19, this disclosure merely teaches that there is a command or instruction that initiates the control of focusing and tracking from control circuit 28, not that this control circuit 28 will produce the function or step required by these claims

as to positional adjustment of either the first lens or second lens on the basis of reproducing signals obtained from the recording medium at one or more points of the above-noted cyclic movement of at least one of said first lens and said second lens.

Insofar as the rationales offered as to rejecting Claims 15 and 22 further seek to invoke inherency, it is noted that inherency cannot be established absent a showing that something must absolutely occur, not simply that something might possibly occur. Thus, in order to establish inherency, the PTO reviewing court in In re Robertson, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999) has noted that the evidence:

[M]ust make clear that the missing descriptive matter is necessarily present in the thing described in the reference, that it would be so recognized by persons of ordinary skill. Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.

Thus, before there can be said to be any inherency in positioning lenses on the basis of a reproducing signal that is obtained from a recording medium at one or more points of an existing cyclic movement of those lenses, it must be established that something inherently causes such a cyclic movement and no such showing has been made here.

Accordingly, for all the above-noted reasons, the rejection of base independent Claims 1, 15, and 22 as being anticipated by Maeda is respectfully traversed.

With regard to Claim 5 dependent upon Claim 1, Claim 19 dependent upon Claim 15, and Claim 26 dependent on Claim 22, each of these dependent claims clearly defines over anything reasonably taught or suggested by Maeda for the same reasons as the respective parent claim does as noted above. In addition, each of these dependent claims add further features to the respective independent claims that are further not taught or suggested by Maeda and are believed to patentably define there over for this reason as well.

Turning to Claims 2, 3, 6, and 7 it is noted that these claims all depend on Claim 1. In addition, it is noted that Funada in no way cures the deficiencies noted above as to Maeda and, accordingly, Claims 2, 3, 6, and 7 patentably define over Maeda considered alone or in any proper combination with Funada for at least the reasons that parent Claim 1 does. In addition, each of Claims 2, 3, 6, and 7 includes further features which are not taught or suggested by Maeda and/or Funada considered alone or together in any proper combination. Accordingly, Claims 2, 3, 6, and 7 also patentably define over these references because of these added features as well.

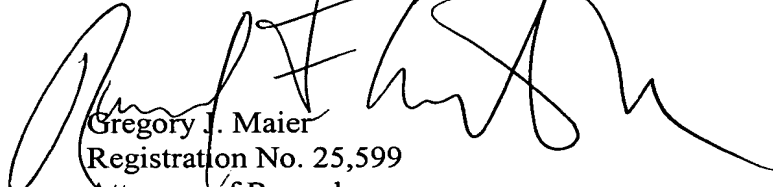
With further regard to Claims 16, 17, 20, and 21 it is noted that each of these claims depend from Claim 15 such that they clearly patentably define over Maeda for the same reasons that parent Claim 15 does. In addition, it is again noted that Funada in no way cures the above-noted deficiencies in Maeda as fully discussed above. Accordingly, Claims 16, 17, 20, 21, are believed to clearly patentably define over Maeda taken alone or with Funada in any proper combination for all the reasons discussed above as to parent Claim 15. In addition, each of Claims 16, 17, 20, and 21 further clearly patentably define over Maeda taken alone or in any proper combination with Funada because of the features that each of these claims add to independent base Claim 15.

Turning to Claims 23, 24, 27 and 28, it is noted that each of these claims depends from base independent Claim 22. Again, as Funada cures none of the deficiencies noted above as to Maeda and base independent Claim 22 clearly patentably defines over these references taken alone or in any proper combination, so do these claims dependent thereon. In addition, these dependent claims add further features to base independent Claim 22 and these features also clearly patentably define over anything reasonably taught or fairly suggested by either Maeda taken alone or in any proper combination with Funada.

In light of the foregoing and as no other issues are believed to remain outstanding relative to this application, it is respectfully submitted that this application is clearly in condition for formal allowance and an early and favorable action to that effect is, therefore, respectfully requested.

Respectfully submitted,

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**Marked-Up Copy**  
Serial No: 09/330,894  
Amendment Filed on:  
7/29/02

IN THE TITLE

Please cancel the original title and replace it with the following:

--OPTIMIZING A DISTANCE BETWEEN LENSES OF A TWO-OBJECTIVE  
LENS FOR MINIMIZING WAVEFRONT ABERRATION AND  
OFFSETTING FOCUS CONTROL--

IN THE SPECIFICATION

Please amend the paragraph starting at line 11 of page 2 and ending at line 2 of page 3 as shown in the attached marked-up copy to read as follows:

--In the case of using such a two-group objective lens, to obtain the best reproducing signal from a recording medium, it is required to optimize a distance between lenses constituting the two-group objective lens for minimizing wavefront aberration. Japanese Patent Application No. Hei 8-340903 made by the present [top] first inventor and the present applicant discloses an apparatus and a method for recording/reproducing optical information on or from an optical disk. In this document, an optical disk drive using an optical head having a two-group objective lens is configured such that lenses constituting the two-group objective lens are integrally moved for focus servo operation and then the tail spherical lens of the two-group objective lens is independently moved in the direction of the optical axis to minimize wavefront aberration.--